This listing of claims will replace all prior versions and listings of claims in the application:

1. (Cancelled).

2. (Cancelled).

3. (Cancelled).

4. (Cancelled).

5. (Cancelled).

6. (Cancelled).

7. (Cancelled).

8. (Cancelled).

9. (Cancelled).

10. (Cancelled).

11. (Cancelled)

12. (Currently Amended) An interference suppressing orthogonal frequency division modulation (IS-OFDM) system for ultra-wideband (UWB) wireless communications that suppresses narrow-band interference, comprising an in-premises base station (IBS), said IBS comprising an IS-OFDM transceiver for communicating with a plurality of in-premises terminals (ITs) without creating interference outside an in-premises perimeter, wherein a transmitted signal comprises a plurality of subcarriers, and further wherein each subcarrier contains more than one and potentially all symbols transmitted in a given frame, said ~~ID-OFDM~~ IS-OFDM transceiver comprising an IS-OFDM transmitter and an IS-OFDM receiver, said IS-OFDM transmitter further comprising:

a serial-to-parallel (S/P) converter, said S/P converter accepting an input data stream and operating on said input data stream to produce a plurality of parallel data streams;

a first plurality of S/P converters, each of said first plurality of S/P converters accepting one of said parallel data streams and producing a plurality of parallel data sub-streams;

a plurality of spreaders, each spreader of said plurality of spreaders coupled to one of said first plurality of S/P converters and operating on one of said plurality of parallel data sub-streams, spreading said one of said plurality of parallel data sub-streams by an orthogonal binary code sequence and resulting in a plurality of parallel spread data sub-streams separated from each other by orthogonal codes;

a second plurality of S/P converters, each of said second plurality of S/P converters accepting one of said plurality of parallel spread data sub-streams and producing a plurality of parallel data signals;

an encoder for encoding said plurality of parallel data signals to produce a plurality of encoded data signals;

an inverse discrete Fourier transform (IDFT) coupled to said encoder, said IDFT accepting said plurality of encoded data signals and producing a plurality of IDFT outputs;

a parallel-to-serial (P/S) converter coupled to said IDFT, said P/S converter accepting said plurality of IDFT outputs and producing an intermediate IS-OFDM data signal, wherein said intermediate IS-OFDM data signal comprises a plurality of frames and said P/S converter further adds a cyclic prefix to each frame of said intermediate IS-OFDM data signal to produce an IS-OFDM data signal; and

a digital-to-analog (D/A) converter, said D/A converter accepting said IS-OFDM data signal and producing an IS-OFDM transmit signal.

13. (Currently Amended) An interference suppressing orthogonal frequency division modulation (IS-OFDM) system for ultra-wideband (UWB) wireless communications that suppresses narrow-band interference, comprising an in-premises base station (IBS), said IBS comprising an IS-OFDM transceiver for communicating with a plurality of in-premises terminals (ITs) without creating interference outside an in-premises perimeter, wherein a transmitted signal comprises a plurality of subcarriers, and further wherein each subcarrier contains more than one and potentially all symbols transmitted in a given frame, said ~~ID-OFDM~~ IS-OFDM transceiver comprising an IS-OFDM transmitter and an IS-OFDM receiver, said IS-OFDM receiver further comprising:

an analog-to-digital (A/D) converter, said A/D converter accepting a received analog signal and operating on said received analog signal to produce a digital received signal;

a serial-to-parallel (S/P) converter coupled to said A/D converter, said S/P converter accepting said digital received signal comprising a plurality of frames and operating on said digital received signal to produce a plurality of parallel received data points, said S/P converter further operating on said digital received signal to remove a cyclic prefix from each frame;

a discrete Fourier transform (DFT) coupled to said S/P converter, said DFT accepting said plurality of parallel received data points and operating on said plurality of parallel received data points to produce complex data signal points;

a decoder-demapper coupled to said DFT, said decoder-demapper accepting said complex data signal points and operating on said complex data signal points to produce a plurality of parallel data points;

a first plurality of parallel-to-serial (P/S) converters coupled to said decoder-demapper, said first plurality of P/S converters accepting said plurality of parallel data points and operating on said plurality of parallel data points to produce a serial data stream;

a plurality of despreaders coupled to one of said plurality of P/S converters, said plurality of despreaders accepting said serial data stream and operating on said serial data stream in parallel with a plurality of code sequences to produce despread data signals;

a plurality of accumulators, each accumulator coupled to one of said plurality of despreaders, said plurality of accumulators accepting said despread data signals and operating on said despread data signals to produce accumulated data streams;

a second plurality of P/S converters coupled to said plurality of accumulators, each of said plurality of P/S converters accepting said accumulated data streams and operating on said accumulated data streams to produce an intermediate recovered data stream; and

a P/S converter coupled to said second plurality of P/S converters, said P/S converter accepting said intermediate recovered data streams and operating on said intermediate recovered data streams to produce a recovered data stream.

14. (Previously Presented) A method for operating an interference suppressing orthogonal frequency division modulation (IS-OFDM) transmitter for ultra-wideband (UWB) wireless communications that suppresses narrow-band interference comprising the steps of:

serial-to-parallel converting an input data stream to produce a plurality of parallel data streams;

further serial-to-parallel converting said plurality of parallel data streams to produce a plurality of parallel data sub-streams;

spreading said plurality of parallel data sub-streams by an orthogonal binary code sequence resulting in a plurality of parallel spread data sub-streams separated from each other by orthogonal codes;

further serial-to-parallel converting said plurality of parallel spread data sub-streams to produce a plurality of parallel data signals;

encoding said plurality of parallel data signals to produce a plurality of encoded data signals;

operating on said plurality of encoded data signals to produce a plurality of IDFT outputs;

parallel-to-serial converting said plurality of IDFT outputs to produce an intermediate IS-OFDM data signal, wherein said intermediate IS-OFDM data signal comprises a plurality of frames;

adding a cyclic prefix to each frame of said intermediate IS-OFDM data signal to produce an IS-OFDM data signal; and

digital-to-analog converting said IS-OFDM data signal to produce an IS-OFDM transmit signal.

15. (Previously Presented) A method for operating an interference suppressing orthogonal frequency division modulation (IS-OFDM) receiver for ultra-wideband (UWB) wireless communications that suppresses narrow-band interference comprising the steps of:

analog-to-digital converting a received analog signal;

operating on said received analog signal to produce a digital received signal;

serial-to-parallel converting said digital received signal, comprising a plurality of frames, to produce a plurality of parallel received data points;

further operating on said digital received signal to remove a cyclic prefix from each frame;

further operating on said plurality of parallel received data points to produce complex data signal points;

decoding and demapping said complex data signal points to produce a plurality of parallel data points;

parallel-to-serial converting said plurality of parallel data points to produce a serial data stream;

despreading said serial data stream to produce despread data signals;

accumulating said despread data signals to produce accumulated data streams;

parallel-to-serial converting said accumulated data streams to produce an intermediate recovered data stream; and

further parallel-to-serial converting said intermediate recovered data streams to produce a recovered data stream.

16. (Cancelled).

17. (Cancelled).

18. (Cancelled).